

### Abstract of the Disclosure

An improved system for screening a multiple of candidate therapeutic or chemotherapeutic agents for efficacy as to a specific patient, in which a tissue sample from the patient is harvested, cultured and separately exposed to a plurality of treatments and/or therapeutic agents for the purpose of objectively identifying. One particularly important tissue sample preparation technique is the initial preparation of cohesive multicellular particulates of the tissue sample. For assays concerning cancer treatment, a two-stage evaluation is contemplated in which both acute cytotoxic and longer term inhibitory effect of a given anti-cancer agent are investigated. The tissue sample technique of the present invention is also useful in assaying expression and/or secretion of various markers, factors or antigens present on or produced by the cultured cells for diagnostic purposes and for using such expression to monitor the applicability of certain candidate therapeutic or chemotherapeutic agents and the progress of treatment with those agents.